STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING
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Application Serial Number: *10/561,487*

Source: *1FWD*

Date Processed by STIC: *12/29/05*

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<u>Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:</u>

1. EFS-Bio <u>(<http://www.uspto.gov/ebc/efs/downloads/documents.htm></u> , **EFS Submission User Manual** - ePAVE)
2. **U.S. Postal Service:** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
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Revised 01/24/05

IFW*p*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/561,487

DATE: 12/29/2005
TIME: 15:03:40

Input Set : **A:\66168-03 Sequence Listing.txt**
Output Set: **N:\CRF4\12292005\J561487.raw**

```
 3 <110> APPLICANT: The Government of the United States of America as
 4       represented by the Secretary of the Department of Health and
 5       Human Services
 6       Drayna, Dennis
 7       Kim, Un-kyung
 9 <120> TITLE OF INVENTION: VARIANTS OF HUMAN TASTE RECEPTOR GENES
11 <130> FILE REFERENCE: 4239-66168-03
```
C--> `13 <140> CURRENT APPLICATION NUMBER: US/10/561,487`
C--> `13 <141> CURRENT FILING DATE: 2005-12-19`
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13 <150> PRIOR APPLICATION NUMBER: PCT/US2004/019489
14 <151> PRIOR FILING DATE: 2004-06-18
16 <150> PRIOR APPLICATION NUMBER: US 60/480,035
17 <151> PRIOR FILING DATE: 2003-06-19
19 <160> NUMBER OF SEQ ID NOS: 264
21 <170> SOFTWARE: PatentIn version 3.2
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 900
25 <212> TYPE: DNA
26 <213> ORGANISM: Homo sapiens
29 <220> FEATURE:
30 <221> NAME/KEY: CDS
31 <222> LOCATION: (1)..(900)
33 <220> FEATURE:
34 <221> NAME/KEY: variation
35 <222> LOCATION: (332)..(332)
36 <223> OTHER INFORMATION: r is g or a
38 <220> FEATURE:
39 <221> NAME/KEY: variation
40 <222> LOCATION: (616)..(616)
41 <223> OTHER INFORMATION: y is t or c
43 <400> SEQUENCE: 1
44 atg cta gag tct cac ctc att atc tat ttt ctt ctt gca gtg ata caa     48
45 Met Leu Glu Ser His Leu Ile Ile Tyr Phe Leu Leu Ala Val Ile Gln
46 1               5                   10                  15
48 ttt ctt ctt ggg att ttc aca aat ggc atc att gtg gtg gtg aat ggc     96
49 Phe Leu Leu Gly Ile Phe Thr Asn Gly Ile Ile Val Val Val Asn Gly
50              20                  25                  30
52 att gac ttg atc aag cac aga aaa atg gct ccg ctg gat ctc ctt ctt    144
53 Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu Leu
54              35                  40                  45
56 tct tgt ctg gca gtt tct aga att ttt ctg cag ttg ttc atc ttc tac    192
57 Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr
58       50                  55                  60
```

Does Not Comply
Corrected Diskette Needed

pp 1, 6

"c" is at 616 (p.2)

```
60 gtt aat gtg att gtt atc ttc ttc ata gaa ttc atc atg tgt tct gcg      240
61 Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala
62 65              70              75              80
64 aat tgt gca att ctc tta ttt ata aat gaa ttg gaa ctt tgg ctt gcc      288
65 Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala
66          85              90              95
68 aca tgg ctc ggc gtt ttc tat tgt gcc aag gtt gcc agc gtc crt cac      336
69 Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Val Ala Ser Val Xaa His
70          100             105             110
72 cca ctc ttc atc tgg ttg aag atg agg ata tcc aag ctg gtc cca tgg      384
73 Pro Leu Phe Ile Trp Leu Lys Met Arg Ile Ser Lys Leu Val Pro Trp
74          115             120             125
76 atg atc ctg ggg tct ctg cta tat gta tct atg att tgt gtt ttc cat      432
77 Met Ile Leu Gly Ser Leu Leu Tyr Val Ser Met Ile Cys Val Phe His
78          130             135             140
80 agc aaa tat gca ggg ttt atg gtc cca tac ttc cta agg aaa ttt ttc      480
81 Ser Lys Tyr Ala Gly Phe Met Val Pro Tyr Phe Leu Arg Lys Phe Phe
82 145             150             155             160
84 tcc caa aat gcc aca att caa aaa gaa gat aca ctg gct ata cag att      528
85 Ser Gln Asn Ala Thr Ile Gln Lys Glu Asp Thr Leu Ala Ile Gln Ile
86          165             170             175
88 ttc tct ttt gtt gct gag ttc tca gtg cca ttg ctt atc ttc ctt ttt      576
89 Phe Ser Phe Val Ala Glu Phe Ser Val Pro Leu Leu Ile Phe Leu Phe
90          180             185             190
92 gct gtt ttg ctc ttg att ttc tct ctg ggg agg cac acc cgg caa atg      624
93 Ala Val Leu Leu Leu Ile Phe Ser Leu Gly Arg His Thr Arg Gln Met
94          195             200             205
96 aga aac aca gtg gcc ggc agc agg gtt cct ggc agg ggt gca ccc atc      672
97 Arg Asn Thr Val Ala Gly Ser Arg Val Pro Gly Arg Gly Ala Pro Ile
98       210             215             220
100 agc gcg ttg ctg tct atc ctg tcc ttc ctg atc ctc tac ttc tcc cac     720
101 Ser Ala Leu Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Phe Ser His
102 225             230             235             240
104 tgc atg ata aaa gtt ttt ctc tct tct cta aag ttt cac atc aga agg     768
105 Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg
106             245             250             255
108 ttc atc ttt ctg ttc ttc atc ctt gtg att ggt ata tac cct tct gga     816
109 Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly
110          260             265             270
112 cac tct ctc atc tta att tta gga aat cct aaa ttg aaa caa aat gca     864
113 His Ser Leu Ile Leu Ile Leu Gly Asn Pro Lys Leu Lys Gln Asn Ala
114          275             280             285
116 aaa aag ttc ctc ctc cac agt aag tgc tgt cag tga                     900
117 Lys Lys Phe Leu Leu His Ser Lys Cys Cys Gln
118    290             295
121 <210> SEQ ID NO: 2
122 <211> LENGTH: 299
123 <212> TYPE: PRT
124 <213> ORGANISM: Homo sapiens
```

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126 <220> FEATURE:
127 <221> NAME/KEY: misc_feature
128 <222> LOCATION: (111)..(111)
129 <223> OTHER INFORMATION: The 'Xaa' at location 111 stands for Arg, or His.
131 <400> SEQUENCE: 2
133 Met Leu Glu Ser His Leu Ile Ile Tyr Phe Leu Leu Ala Val Ile Gln
134 1               5                   10                  15
137 Phe Leu Leu Gly Ile Phe Thr Asn Gly Ile Ile Val Val Val Asn Gly
138             20                  25                  30
141 Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu Leu
142         35                  40                  45
145 Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr
146     50                  55                  60
149 Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala
150 65                  70                  75                  80
153 Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala
154                 85                  90                  95
157 Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Val Ala Ser Val Xaa His
158             100                 105                 110
161 Pro Leu Phe Ile Trp Leu Lys Met Arg Ile Ser Lys Leu Val Pro Trp
162         115                 120                 125
165 Met Ile Leu Gly Ser Leu Leu Tyr Val Ser Met Ile Cys Val Phe His
166     130                 135                 140
169 Ser Lys Tyr Ala Gly Phe Met Val Pro Tyr Phe Leu Arg Lys Phe Phe
170 145                 150                 155                 160
173 Ser Gln Asn Ala Thr Ile Gln Lys Glu Asp Thr Leu Ala Ile Gln Ile
174                 165                 170                 175
177 Phe Ser Phe Val Ala Glu Phe Ser Val Pro Leu Leu Ile Phe Leu Phe
178             180                 185                 190
181 Ala Val Leu Leu Leu Ile Phe Ser Leu Gly Arg His Thr Arg Gln Met
182         195                 200                 205
185 Arg Asn Thr Val Ala Gly Ser Arg Val Pro Gly Arg Gly Ala Pro Ile
186     210                 215                 220
189 Ser Ala Leu Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Phe Ser His
190 225                 230                 235                 240
193 Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg
194             245                 250                 255
197 Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly
198         260                 265                 270
201 His Ser Leu Ile Leu Ile Leu Gly Asn Pro Lys Leu Lys Gln Asn Ala
202         275                 280                 285
205 Lys Lys Phe Leu Leu His Ser Lys Cys Cys Gln
206     290                 295
209 <210> SEQ ID NO: 3
210 <211> LENGTH: 951
211 <212> TYPE: DNA
212 <213> ORGANISM: Homo sapiens
215 <220> FEATURE:
216 <221> NAME/KEY: CDS
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RAW SEQUENCE LISTING   DATE: 12/29/2005
PATENT APPLICATION: US/10/561,487   TIME: 15:03:40

Input Set : A:\66168-03 Sequence Listing.txt
Output Set: N:\CRF4\12292005\J561487.raw

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217 <222> LOCATION: (1)..(951)
219 <220> FEATURE:
220 <221> NAME/KEY: variation
221 <222> LOCATION: (349)..(349)
222 <223> OTHER INFORMATION: y is t or c
224 <220> FEATURE:
225 <221> NAME/KEY: variation
226 <222> LOCATION: (807)..(807)
227 <223> OTHER INFORMATION: y is t or c
229 <220> FEATURE:
230 <221> NAME/KEY: variation
231 <222> LOCATION: (852)..(852)
232 <223> OTHER INFORMATION: y is t or c
234 <400> SEQUENCE: 3
235 atg atg gga ctc acc gag ggg gtg ttc ctg att ctg tct ggc act cag      48
236 Met Met Gly Leu Thr Glu Gly Val Phe Leu Ile Leu Ser Gly Thr Gln
237 1               5                   10                  15
239 ttc aca ctg gga att ctg gtc aat tgt ttc att gag ttg gtc aat ggt      96
240 Phe Thr Leu Gly Ile Leu Val Asn Cys Phe Ile Glu Leu Val Asn Gly
241             20                  25                  30
243 agc agc tgg ttc aag acc aag aga atg tct ttg tct gac ttc atc atc     144
244 Ser Ser Trp Phe Lys Thr Lys Arg Met Ser Leu Ser Asp Phe Ile Ile
245         35                  40                  45
247 acc acc ctg gca ctc ttg agg atc att ctg ctg tgt att atc ttg act     192
248 Thr Thr Leu Ala Leu Leu Arg Ile Ile Leu Leu Cys Ile Ile Leu Thr
249     50                  55                  60
251 gat agt ttt tta ata gaa ttc tct ccc aac aca cat gat tca ggg ata     240
252 Asp Ser Phe Leu Ile Glu Phe Ser Pro Asn Thr His Asp Ser Gly Ile
253 65                  70                  75                  80
255 ata atg caa att att gat gtt tcc tgg aca ttt aca aac cat ctg agc     288
256 Ile Met Gln Ile Ile Asp Val Ser Trp Thr Phe Thr Asn His Leu Ser
257                 85                  90                  95
259 att tgg ctt gcc acc tgt ctt ggt gtc ctc tac tgc ctg aaa atc gcc     336
260 Ile Trp Leu Ala Thr Cys Leu Gly Val Leu Tyr Cys Leu Lys Ile Ala
261             100                 105                 110
263 agt ttc tct cac ycc aca ttc ctc tgg ctc aag tgg aga gtt tct agg     384
264 Ser Phe Ser His Xaa Thr Phe Leu Trp Leu Lys Trp Arg Val Ser Arg
265         115                 120                 125
267 gtg atg gta tgg atg ctg ttg ggt gca ctg ctc tta tcc tgt ggt agt     432
268 Val Met Val Trp Met Leu Leu Gly Ala Leu Leu Leu Ser Cys Gly Ser
269     130                 135                 140
271 acc gca tct ctg atc aat gag ttt aag ctc tat tct gtc ttt agg gga     480
272 Thr Ala Ser Leu Ile Asn Glu Phe Lys Leu Tyr Ser Val Phe Arg Gly
273 145                 150                 155                 160
275 att gag gcc acc agg aat gtg act gaa cac ttc aga aag aag agg agt     528
276 Ile Glu Ala Thr Arg Asn Val Thr Glu His Phe Arg Lys Lys Arg Ser
277                 165                 170                 175
279 gag tat tat ctg atc cat gtt ctt ggg act ctg tgg tac ctg cct ccc     576
280 Glu Tyr Tyr Leu Ile His Val Leu Gly Thr Leu Trp Tyr Leu Pro Pro
```

```
281              180            185              190
283 tta att gtg tcc ctg gcc tcc tac tct ttg ctc atc ttc tcc ctg ggg      624
284 Leu Ile Val Ser Leu Ala Ser Tyr Ser Leu Leu Ile Phe Ser Leu Gly
285         195            200              205
287 agg cac aca cgg cag atg ctg caa aat ggg aca agc tcc aga gat cca      672
288 Arg His Thr Arg Gln Met Leu Gln Asn Gly Thr Ser Ser Arg Asp Pro
289     210            215              220
291 acc act gag gcc cac aag agg gcc atc aga atc atc ctt tcc ttc ttc      720
292 Thr Thr Glu Ala His Lys Arg Ala Ile Arg Ile Ile Leu Ser Phe Phe
293 225            230              235            240
295 ttt ctc ttc tta ctt tac ttt ctt gct ttc tta att gca tca ttt ggt      768
296 Phe Leu Phe Leu Leu Tyr Phe Leu Ala Phe Leu Ile Ala Ser Phe Gly
297            245            250            255
299 aat ttc cta cca aaa acc aag atg gct aag atg att ggy gaa gta atg      816
300 Asn Phe Leu Pro Lys Thr Lys Met Ala Lys Met Ile Xaa Glu Val Met
301         260            265            270
303 aca atg ttt tat cct gct ggc cac tca ttt att cty att ctg ggg aac      864
304 Thr Met Phe Tyr Pro Ala Gly His Ser Phe Ile Xaa Ile Leu Gly Asn
305         275            280            285
307 agt aag ctg aag cag aca ttt gta gtg atg ctc cgg tgt gag tct ggt      912
308 Ser Lys Leu Lys Gln Thr Phe Val Val Met Leu Arg Cys Glu Ser Gly
309     290            295            300
311 cat ctg aag cct gga tcc aag gga ccc att ttc tct tag              951
312 His Leu Lys Pro Gly Ser Lys Gly Pro Ile Phe Ser
313 305            310            315
316 <210> SEQ ID NO: 4
317 <211> LENGTH: 316
318 <212> TYPE: PRT
319 <213> ORGANISM: Homo sapiens
321 <220> FEATURE:
322 <221> NAME/KEY: misc_feature
323 <222> LOCATION: (117)..(117)
324 <223> OTHER INFORMATION: The 'Xaa' at location 117 stands for Pro, or Ser.
326 <220> FEATURE:
327 <221> NAME/KEY: misc_feature
328 <222> LOCATION: (269)..(269)
329 <223> OTHER INFORMATION: The 'Xaa' at location 269 stands for Gly.
331 <220> FEATURE:
332 <221> NAME/KEY: misc_feature
333 <222> LOCATION: (284)..(284)
334 <223> OTHER INFORMATION: The 'Xaa' at location 284 stands for Leu.
336 <400> SEQUENCE: 4
338 Met Met Gly Leu Thr Glu Gly Val Phe Leu Ile Leu Ser Gly Thr Gln
339 1            5              10              15
342 Phe Thr Leu Gly Ile Leu Val Asn Cys Phe Ile Glu Leu Val Asn Gly
343         20            25            30
346 Ser Ser Trp Phe Lys Thr Lys Arg Met Ser Leu Ser Asp Phe Ile Ile
347         35            40            45
350 Thr Thr Leu Ala Leu Leu Arg Ile Ile Leu Leu Cys Ile Ile Leu Thr
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 12/29/2005
PATENT APPLICATION: US/10/561,487   TIME: 15:03:41

Input Set : A:\66168-03 Sequence Listing.txt
Output Set: N:\CRF4\12292005\J561487.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 111
Seq#:2; Xaa Pos. 111
Seq#:3; Xaa Pos. 117,269,284
Seq#:4; Xaa Pos. 117,269,284
Seq#:5; Xaa Pos. 3,7,62,96,171
Seq#:6; Xaa Pos. 3,7,62,96,171
Seq#:7; Xaa Pos. 26,79,113,167,213,294
Seq#:8; Xaa Pos. 26,79,113,167,213,294
Seq#:9; Xaa Pos. 263
Seq#:10; Xaa Pos. 263
Seq#:11; Xaa Pos. 166,183,277,308
Seq#:12; Xaa Pos. 166,183,277,308
Seq#:13; Xaa Pos. 67,150,187,289,294
Seq#:14; Xaa Pos. 67,150,187,289,294
Seq#:15; Xaa Pos. 40,156,174,188,209
Seq#:16; Xaa Pos. 40,156,174,188,209
Seq#:17; Xaa Pos. 259
Seq#:18; Xaa Pos. 259
Seq#:19; Xaa Pos. 86
Seq#:20; Xaa Pos. 86
Seq#:21; Xaa Pos. 100,101,154,172,222,282
Seq#:22; Xaa Pos. 100,101,154,172,222,282
Seq#:23; Xaa Pos. 49,80,262,274,296
Seq#:24; Xaa Pos. 49,80,262,274,296
Seq#:25; Xaa Pos. 193,197
Seq#:26; Xaa Pos. 193,197
Seq#:27; Xaa Pos. 187,273
Seq#:28; Xaa Pos. 187,273
Seq#:29; Xaa Pos. 63,127,195
Seq#:30; Xaa Pos. 63,127,195
Seq#:31; Xaa Pos. 35,90,154,170,200,212,221,294,295,297
Seq#:32; Xaa Pos. 35,90,154,170,200,212,221,294,295,297
Seq#:33; Xaa Pos. 35,162,200,217,227,240,248,276,281
Seq#:34; Xaa Pos. 35,162,200,217,227,240,248,276,281
Seq#:35; Xaa Pos. 36,228,250,288
Seq#:36; Xaa Pos. 36,228,250,288
Seq#:39; Xaa Pos. 32,109,140,152,225,240,267,295,299
Seq#:40; Xaa Pos. 32,109,140,152,225,240,267,295,299
Seq#:41; Xaa Pos. 141,143,148,172,236,252,255,270
Seq#:42; Xaa Pos. 141,143,148,172,236,252,255,270
Seq#:45; Xaa Pos. 199
Seq#:46; Xaa Pos. 199

```
L:13   M:270 C: Current Application Number differs, Replaced Current Application No
L:13   M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:69   M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:336
L:157  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:96
L:264  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:384
L:300  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:816
L:304  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:864
L:366  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:112
L:402  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:256
L:406  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:272
L:455  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:48
L:467  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:192
L:475  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:288
L:495  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:528
L:563  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:575  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:48
L:583  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:80
L:603  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:160
L:685  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:96
L:697  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:240
L:709  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:384
L:721  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:528
L:733  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:672
L:753  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:900
L:798  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:16
L:810  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:64
L:822  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:112
L:834  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:160
L:846  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:208
L:866  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:288
L:952  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:816
L:1044 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:256
L:1132 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:528
L:1136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:576
L:1160 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:864
L:1168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:930
L:1239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:160
L:1243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:176
L:1267 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:272
L:1275 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:304
L:1332 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:240
L:1352 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:480
L:1360 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:576
L:1388 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:912
L:1444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:64
L:1464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:144
L:1472 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:176
L:1500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:288
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VERIFICATION SUMMARY   DATE: 12/29/2005
PATENT APPLICATION: US/10/561,487   TIME: 15:03:41

Input Set : A:\66168-03 Sequence Listing.txt
Output Set: N:\CRF4\12292005\J561487.raw

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L:1553 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:144
L:1581 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:480
L:1585 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:528
L:1589 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:576
L:1597 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:672
L:1665 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:32
L:1693 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:144
L:1697 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:160
L:1701 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:176
L:1709 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:208
L:1818 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:816
L:1906 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:256
L:1955 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:288
L:2047 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:80
L:2173 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:336
L:2185 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:480
L:2189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:528
L:2201 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:672
L:2217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:864
L:2286 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:96
L:2298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:144
L:2302 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:160
L:2314 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:208
L:2330 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:272
L:2387 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:192
L:2391 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:240
L:2439 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:816
L:2443 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:864
L:2447 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:912
L:2503 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:48
L:2507 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:64
L:2555 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:256
L:2559 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:272
L:2563 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:288
L:2645 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:624
L:2750 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:192
L:2856 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:576
L:2880 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:864
L:2957 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:176
L:2981 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:272
L:3036 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:192
L:3052 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:384
L:3072 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:624
L:3138 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:48
L:3154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:112
L:3174 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:192
L:3276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:144
L:3288 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:288
L:3304 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:480
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VERIFICATION SUMMARY   DATE: 12/29/2005
PATENT APPLICATION: US/10/561,487   TIME: 15:03:41

Input Set : A:\66168-03 Sequence Listing.txt
Output Set: N:\CRF4\12292005\J561487.raw

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L:3308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:528
L:3316 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:624
L:3320 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:672
L:3340 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:912
L:3413 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:32
L:3425 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:80
L:3441 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:144
L:3445 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:160
L:3453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:192
L:3457 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:208
L:3477 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:288
L:3550 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:144
L:3582 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:528
L:3590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:624
L:3594 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:672
L:3598 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:720
L:3602 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:768
L:3610 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:864
L:3682 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:32
L:3714 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:160
L:3722 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:192
L:3726 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:208
L:3730 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:224
L:3734 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:240
L:3742 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:272
L:3794 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:144
L:3842 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:720
L:3846 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:768
L:3854 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:864
L:3897 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:32
L:3945 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:224
L:3949 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:240
L:3957 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:272
L:4205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:96
L:4225 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:336
L:4233 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:432
L:4237 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:480
L:4257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:720
L:4265 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:816
L:4273 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:900
L:4333 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:16
L:4353 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:96
L:4361 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:128
L:4365 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:144
L:4385 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:224
L:4393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:256
L:4401 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:288
L:4489 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:432
L:4493 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:480
```

VERIFICATION SUMMARY
PATENT APPLICATION: **US/10/561,487**

DATE: 12/29/2005
TIME: 15:03:41

Input Set : **A:\66168-03 Sequence Listing.txt**
Output Set: **N:\CRF4\12292005\J561487.raw**

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L:4497 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:528
L:4513 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:720
L:4517 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:768
L:4521 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:816
L:4616 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:128
L:4620 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:144
L:4624 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:160
L:4640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:224
L:4644 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:240
L:4648 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:256
L:4900 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:624
L:4992 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:192
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